

IndexingAndSelectingDataWithPandas

September 8, 2025

```
[1]: import pandas as pd
```

```
[4]: data = pd.read_csv("Downloads/nba.csv", index_col='Name')
```

```
[5]: print("Dataset")
```

Dataset

```
[6]: display(data.head(5))
```

	Team	Number	Position	Age	Height	Weight	\
Name							
Avery Bradley	Boston Celtics	0.0	PG	25.0	6-2	180.0	
Jae Crowder	Boston Celtics	99.0	SF	25.0	6-6	235.0	
John Holland	Boston Celtics	30.0	SG	27.0	6-5	205.0	
R.J. Hunter	Boston Celtics	28.0	SG	22.0	6-5	185.0	
Jonas Jerebko	Boston Celtics	8.0	PF	29.0	6-10	231.0	

	College	Salary
Name		
Avery Bradley	Texas	7730337.0
Jae Crowder	Marquette	6796117.0
John Holland	Boston University	NaN
R.J. Hunter	Georgia State	1148640.0
Jonas Jerebko	NaN	5000000.0

```
[7]: first = data["Age"]
```

```
[8]: print("\nSingle Column selected from Dataset")
```

Single Column selected from Dataset

```
[9]: display(first.head(5))
```

	Name
Avery Bradley	25.0
Jae Crowder	25.0
John Holland	27.0
R.J. Hunter	22.0

```
 Jonas Jerebko    29.0
Name: Age, dtype: float64
```

```
[10]: data = pd.read_csv("Downloads/nba.csv", index_col="Name")
print("Dataset")
display(data.head(5))

first = data["Age"]
print("\nSingle Column selected from Dataset")
display(first.head(5))
```

Dataset

Name	Team	Number	Position	Age	Height	Weight	\
Avery Bradley	Boston Celtics	0.0	PG	25.0	6-2	180.0	
Jae Crowder	Boston Celtics	99.0	SF	25.0	6-6	235.0	
John Holland	Boston Celtics	30.0	SG	27.0	6-5	205.0	
R.J. Hunter	Boston Celtics	28.0	SG	22.0	6-5	185.0	
Jonas Jerebko	Boston Celtics	8.0	PF	29.0	6-10	231.0	

Name	College	Salary
Avery Bradley	Texas	7730337.0
Jae Crowder	Marquette	6796117.0
John Holland	Boston University	NaN
R.J. Hunter	Georgia State	1148640.0
Jonas Jerebko	NaN	5000000.0

Single Column selected from Dataset

```
Name
Avery Bradley    25.0
Jae Crowder      25.0
John Holland     27.0
R.J. Hunter      22.0
Jonas Jerebko    29.0
Name: Age, dtype: float64
```

```
[11]: first = data[["Age", "College", "Salary"]]
print("\nMultiple Columns Selected from Dataset")
display(first.head(5))
```

Multiple Columns Selected from Dataset

Name	Age	College	Salary
Avery Bradley	25.0	Texas	7730337.0
Jae Crowder	25.0	Marquette	6796117.0

```
John Holland    27.0    Boston University      NaN
R.J. Hunter     22.0      Georgia State  1148640.0
Jonas Jerebko   29.0      NaN  5000000.0
```

```
[12]: row = data.loc["Avery Bradley"]
print(row)
```

```
Team      Boston Celtics
Number      0.0
Position      PG
Age       25.0
Height      6-2
Weight      180.0
College      Texas
Salary      7730337.0
Name: Avery Bradley, dtype: object
```

```
[13]: rows = data.loc[["Avery Bradley", "R.J. Hunter"]]
print(rows)
```

```
          Team  Number Position   Age Height  Weight \
Name
Avery Bradley  Boston Celtics      0.0      PG  25.0    6-2    180.0
R.J. Hunter    Boston Celtics     28.0      SG  22.0    6-5    185.0

          College      Salary
Name
Avery Bradley      Texas  7730337.0
R.J. Hunter    Georgia State  1148640.0
```

```
[14]: selection = data.loc[["Avery Bradley", "R.J. Hunter"], ["Team", "Number", "Position"]]
print(selection)
```

```
          Team  Number Position
Name
Avery Bradley  Boston Celtics      0.0      PG
R.J. Hunter    Boston Celtics     28.0      SG
```

```
[15]: all_rows_specific_columns = data.loc[:, ["Team", "Position", "Salary"]]
print(all_rows_specific_columns)
```

```
          Team Position      Salary
Name
Avery Bradley  Boston Celtics      PG  7730337.0
Jae Crowder    Boston Celtics      SF  6796117.0
John Holland   Boston Celtics      SG      NaN
R.J. Hunter    Boston Celtics      SG  1148640.0
Jonas Jerebko  Boston Celtics      PF  5000000.0
...
...
```

```
Shelvin Mack      Utah Jazz      PG  2433333.0
Raul Neto        Utah Jazz      PG  900000.0
Tibor Pleiss     Utah Jazz      C   2900000.0
Jeff Withey      Utah Jazz      C   947276.0
NaN              NaN           NaN  NaN
```

[458 rows x 3 columns]

```
[16]: row = data.iloc[3]
print(row)
```

```
Team      Boston Celtics
Number    28.0
Position   SG
Age       22.0
Height    6-5
Weight    185.0
College   Georgia State
Salary    1148640.0
Name: R.J. Hunter, dtype: object
```

```
[17]: rows = data.iloc[[3, 5, 7]]
print(rows)
```

```
          Team  Number Position  Age Height  Weight \
Name
R.J. Hunter  Boston Celtics  28.0      SG  22.0   6-5  185.0
Amir Johnson Boston Celtics  90.0      PF  29.0   6-9  240.0
Kelly Olynyk  Boston Celtics  41.0      C   25.0   7-0  238.0

          College  Salary
Name
R.J. Hunter  Georgia State  1148640.0
Amir Johnson           NaN  12000000.0
Kelly Olynyk    Gonzaga    2165160.0
```

```
[18]: selection = data.iloc[[3, 4], [1, 2]]
print(selection)
```

```
          Number Position
Name
R.J. Hunter    28.0      SG
Jonas Jerebko  8.0       PF
```

```
[19]: selection = data.iloc[:, [1, 2]]
print(selection)
```

```
          Number Position
Name
Avery Bradley  0.0       PG
```

```

Jae Crowder      99.0      SF
John Holland    30.0      SG
R.J. Hunter     28.0      SG
Jonas Jerebko   8.0       PF
...
...           ...
Shelvin Mack    8.0       PG
Raul Neto       25.0      PG
Tibor Pleiss    21.0      C
Jeff Withey     24.0      C
NaN            NaN      NaN

```

[458 rows x 2 columns]

[20]: `print(data.head(5))`

		Team	Number	Position	Age	Height	Weight	\
Name								
Avery Bradley	Boston Celtics		0.0	PG	25.0	6-2	180.0	
Jae Crowder	Boston Celtics		99.0	SF	25.0	6-6	235.0	
John Holland	Boston Celtics		30.0	SG	27.0	6-5	205.0	
R.J. Hunter	Boston Celtics		28.0	SG	22.0	6-5	185.0	
Jonas Jerebko	Boston Celtics		8.0	PF	29.0	6-10	231.0	
		College		Salary				
Name								
Avery Bradley		Texas		7730337.0				
Jae Crowder		Marquette		6796117.0				
John Holland	Boston University			Nan				
R.J. Hunter	Georgia State			1148640.0				
Jonas Jerebko		Nan		5000000.0				

[21]: `print(data.tail(5))`

		Team	Number	Position	Age	Height	Weight	College	\
Name									
Shelvin Mack	Utah Jazz		8.0	PG	26.0	6-3	203.0	Butler	
Raul Neto	Utah Jazz		25.0	PG	24.0	6-1	179.0	Nan	
Tibor Pleiss	Utah Jazz		21.0	C	26.0	7-3	256.0	Nan	
Jeff Withey	Utah Jazz		24.0	C	26.0	7-0	231.0	Kansas	
Nan		Nan	Nan	Nan	Nan	Nan	Nan	Nan	
		Salary							
Name									
Shelvin Mack	2433333.0								
Raul Neto	900000.0								
Tibor Pleiss	2900000.0								
Jeff Withey	947276.0								
Nan		Nan							

```
[22]: value = data.at["Avery Bradley", "Age"]
print(value)
```

25.0

```
[23]: result = data.query("Age > 25 and College == 'Duke'")
print(result)
```

Name	Team	Number	Position	Age	Height	\
Lance Thomas	New York Knicks	42.0	SF	28.0	6-8	
Elton Brand	Philadelphia 76ers	42.0	PF	37.0	6-9	
JJ Redick	Los Angeles Clippers	4.0	SG	31.0	6-4	
Mike Dunleavy	Chicago Bulls	34.0	SG	35.0	6-9	
Dahntay Jones	Cleveland Cavaliers	30.0	SG	35.0	6-6	
Miles Plumlee	Milwaukee Bucks	18.0	C	27.0	6-11	
Luol Deng	Miami Heat	9.0	SF	31.0	6-9	
Josh McRoberts	Miami Heat	4.0	PF	29.0	6-10	
Kyle Singler	Oklahoma City Thunder	5.0	SF	28.0	6-8	
Gerald Henderson	Portland Trail Blazers	9.0	SG	28.0	6-5	
Mason Plumlee	Portland Trail Blazers	24.0	C	26.0	6-11	

Name	Weight	College	Salary
Lance Thomas	235.0	Duke	1636842.0
Elton Brand	254.0	Duke	NaN
JJ Redick	190.0	Duke	7085000.0
Mike Dunleavy	230.0	Duke	4500000.0
Dahntay Jones	225.0	Duke	NaN
Miles Plumlee	249.0	Duke	2109294.0
Luol Deng	220.0	Duke	10151612.0
Josh McRoberts	240.0	Duke	5543725.0
Kyle Singler	228.0	Duke	4500000.0
Gerald Henderson	215.0	Duke	6000000.0
Mason Plumlee	235.0	Duke	1415520.0

[]: